

REMARKS

Claims 1-18 are pending, of which Claims 10, 11, and 18 have been withdrawn from consideration. Claims 1-9 and 12-17 have been examined and stand rejected. Claims 1-7 and 14-16 have been amended, Claims 8, 9, 12, 13, and 17 have been canceled, and new Claims 19-21 have been added. No new matter has been introduced. Reconsideration and allowance of Claims 1-7, 14-16, and 19-21 is respectfully requested.

Declaration

The Examiner has objected to the declaration on the basis that it fails to claim priority as a continuation-in-part application to U.S. Application No. 09/326,501, which claims the benefit of Provisional Application No. 60/180,455. Applicants respectfully submit that while priority to *foreign* applications must be claimed in the declaration, there is no such requirement for claiming priority to earlier U.S. applications. See 37 C.F.R. § 1.63(c)(2); M.P.E.P § 602.III. Withdrawal of this ground of objection is respectfully requested.

Priority

The Examiner has also requested that a sentence stating that this application is a national phase application of PCT/EP00/05150, filed on June 5, 2000, be added to the Cross-References to Related Applications section of the application and that the status of all nonprovisional patent applications reference should be included. Applicants have amended the Cross-References to Related Applications section as requested by the Examiner. Withdrawal of this ground of objection is respectfully requested.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected Claims 1-9 and 12-17 under 35 U.S.C. § 112, second paragraph, as being indefinite. According to the Examiner, the meaning of "an oil" in Claims 1, 14, and 16 is unclear, the abbreviation "TAG" in Claims 1-3 is indefinite, the phrase "plants

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

producing plant seed" in Claim 13 is indefinite, the phrase "according to claim 1" in Claims 12 and 13 is indefinite, and the phrase "desired levels" in steps h) and j) of Claim 15 is indefinite. Claims 8, 9, 12, 13, and 17 have been canceled. Claims 1, 14, and 16 have been amended as suggested by the Examiner, except that "an oil" in Claims 1, 14, and 16 has been amended to recite "oil" rather than "the oil" for the reason that "the oil" lacks antecedent basis. Claim 15 has been amended to replace the phrase "desired levels" to specify a stearic acid content of at least 12 wt%, an oleic acid content of at least 40 wt%, and a thioesterase activity over stearoyl-ACP of at least 10% of the thioesterase activity over oleoyl-ACP, as recited in step g) of Claim 15. Withdrawal of this ground of rejection is respectfully requested.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph (Written Description)

The Examiner has also rejected Claims 12 and 13 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 12 and 13 have been canceled without acquiescence in the Examiner's position and without prejudice to applicants' right to pursue the canceled subject matter in a separate application. Therefore, this ground of rejection is now moot.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph (Enablement)

The Examiner has rejected Claims 1-9 and 12-17 under 35 U.S.C. § 112, first paragraph, as not being enabled by the specification. According to the Examiner, the specification does not enable the production of seeds with the claimed properties for a seed of any plant species and produced by any method. Applicants respectfully disagree.

The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosure in a patent coupled with information known in the art at the time of filing without undue experimentation. Not everything necessary to practice the invention need be disclosed, what is well-known is best omitted. All that is necessary is that one skilled in the

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CHRISTENSEN O'CONNOR JOHNSON KINDNESS PLLC
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

art be able to practice the claimed invention, given the level of knowledge and skill in the art. M.P.E.P. Section 2164.08.

Without acquiescing in the Examiner's position, Claims 8, 9, 12, 13, and 17 have been canceled and Claims 1-7 and 14-16 have been amended to recite that the plants and seeds are sunflower plants and sunflower seeds. As indicated in the specification, sunflower seeds and plants having the claimed properties can be produced by crossing a parent line with a high stearic acid content with another parent line having both a high oleic acid content and high thioesterase activity (Specification, page 6, lines 6-30; page 17, lines 1-9). The specification also describes methods for selecting suitable lines having a high stearic acid content, as well as methods for selecting suitable lines having both a high oleic acid content and high thioesterase activity (Specification, page 7, line 14, to page 8, line 8). Not only does the specification describes methods for selecting lines having a high stearic acid content, it also describes methods for generating lines having a high stearic acid content (Specification, page 16, line 11-38; page 19, line 18 to page 21, line 3). Furthermore, the specification describes a method for measuring the fatty acid composition of seeds (Specification, page 19, lines 29-34), and methods for measuring thioesterase activity (Specification page 17, line 30, to page 19, line 15). Additionally, the specification describes methods for crossing a parent line with a high stearic acid content with another parent line having both a high oleic acid content and high thioesterase activity (Specification, page 21, line 6 to page 26, line 28). With respect to Martinez-Force et al. (1998) *J. Agric. Food Chem.* 46:3577-82, cited by the Examiner as teaching that the particular fatty acid composition of a seed changes as a function of time and temperature, the specification describes suitable conditions, including temperatures, for growing sunflower seeds (Specification, 17, lines 20-28). Therefore, applicants respectfully submit that no undue experimentation is required for one of skill in the art to practice the claimed invention.

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

Claim Rejections Under 35 U.S.C. § 102(b) or § 103(a)

The Examiner has rejected Claims 1-3, 5-8, 12, and 13 under 35 U.S.C. § 102(b) as anticipated by Hawkins et al. (1998) *Plant J.* 13(6):743-52, and, in the alternative, under 35 U.S.C. § 103(a) as obvious over Hawkins et al. (1998) in view of U.S. Patent No. 6,365,802 (Kridl). The Examiner has also rejected Claims 1-3, 5-9, 12, and 13 under 35 U.S.C. § 102(b) as anticipated by Osorio et al. (1995) *Crop Sci.* 35(3):739-42, and, in the alternative, under 35 U.S.C. § 103(a) as obvious over Osorio et al. (1995) in view of Martinez-Force et al. and Kridl. Applicants respectfully disagree.

As noted above, Claims 8, 9, 12, 13, and 17 have been canceled and Claims 1-7 and 14-16 have been amended to recite that the plants and seeds are sunflower plants and sunflower seeds. Claim 1, from which Claims 2, 3, and 5-7 depend, has additionally been amended to recite that the oil has a linoleic acid content of less than 20 wt%. Applicants respectfully submit that none of the cited references disclose or suggest sunflower seeds that contain oil having an oleic acid content of more than 40 wt% and a stearic acid content of more than 12 wt% based on the total fatty acid content of said oil, wherein a maximum of 10 wt% of the fatty acid groups in the *sn*-2 position of the triacylglycerol molecules are saturated fatty acids, and wherein the oil has a linoleic acid content of less than 20 wt%. For example, Hawkins et al. discloses oil from seed from *Garcinia morella*, and neither discloses nor suggests oil from sunflower seeds. Similarly, Kridl et al. discloses oil from soybean oil and neither discloses nor suggests oil from sunflower seeds. Moreover, the sunflower oil of CAS-4 seeds disclosed in Osorio et al. and Martinez-Force et al. has a linoleic acid content of $480 \pm 33 \text{ g kg}^{-1}$ (Osorio et al., Table 2; i.e., a linoleic acid content of about 48 wt%), which is clearly above the linoleic acid content of less than 20% as recited in Claim 1. Neither Osorio et al. nor Martinez-Force et al. suggest an oil with a stearic acid content of more than 12 wt%, an oleic acid content of more than 40 wt%, and an linoleic acid content of less than 20 wt%. Because none of the cited references disclose or

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

suggest the sunflower seeds having the fatty acid content recited in Claims 1-3 and 5-7, these references neither anticipate nor render obvious the claimed invention. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

Conclusion

In view of the above amendment and foregoing remarks, applicants respectfully submit that Claims 1-7, 14-16, and 19-21 are in condition for allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicants' attorney at 206.695.1718.

Respectfully submitted,

CHRISTENSEN O'CONNOR
JOHNSON KINDNESS^{PLLC}



Karen Blöchliger, Ph.D.
Registration No. 41,395
Direct Dial No. 206.695.1783

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LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100